USING REDUNDANT SPARES TO REDUCE STORAGE DEVICE ARRAY REBUILD TIME

ABSTRACT OF THE DISCLOSURE

A method for replacing a failed storage device in a storage device array includes detecting that the storage device has failed, and reconstructing data that was stored on the failed storage device. The method also includes commencing writing the reconstructed data on each of a plurality of spare storage devices, without verifying that the reconstructed data is successfully written, and finishing writing the reconstructed data on at least one of the spare storage devices. The method further includes beginning validating that the reconstructed data was successfully written, on each of the spare storage devices that the writing was finished on. A write complete message indicating that the reconstructed data was successfully written is received from at least one of the spare storage devices, and, a spare storage device from which a write complete message was received is accepted into the storage device array to replace the failed storage device.